

What is claimed is:

1. A circulation system for a mover that includes a first inlet and a
2 second inlet, the circulation system comprising:
a fluid source that directs a first fluid to the first inlet and a second
4 fluid to the second inlet, wherein a temperature of the first fluid at the first
inlet is different than a temperature of the second fluid at the second inlet.
2. The circulation system of claim 1 wherein the temperature of the first
2 fluid at the first inlet is at least approximately 2 degrees C greater than the
temperature of the second fluid at the second inlet.
3. The circulation system of claim 1 wherein the temperature of the first
2 fluid at the first inlet is at least approximately 5 degrees C greater than the
temperature of the second fluid at the second inlet.
4. The circulation system of claim 1 wherein the temperature of the first
2 fluid at the first inlet is at least approximately 10 degrees C greater than the
temperature of the second fluid at the second inlet.
5. A mover combination comprising (i) a mover having a magnet
2 component and a conductor component and (ii) the circulation system of claim 1.
6. The mover combination of claim 5 wherein the mover is positioned in
2 a room that is at a room temperature, and wherein the temperature of the first fluid
at the first inlet is approximately equal to the room temperature.
7. The mover combination of claim 5 wherein the mover includes a first
2 passageway and a second passageway, wherein the first inlet is in fluid
communication with the first passageway and the second inlet is in fluid
4 communication with the second passageway.
8. The mover combination of claim 7 wherein the first passageway
2 encircles at least a portion of the second passageway.

2 9. The mover combination of claim 8 wherein the conductor component
includes a conductor array and the first passageway encircles at least a portion of
the conductor array and the conductor array encircles at least a portion of the
4 second passageway.

2 10. The mover combination of claim 8 wherein the passageways are
substantially coaxial.

2 11. The mover combination of claim 5 wherein the first fluid source
includes a first conduit that transports the first fluid and a second conduit that
transports the second fluid, wherein at least a portion of the first conduit encircles
4 the second conduit.

2 12. The mover combination of claim 5 wherein the magnet component
includes a pair of spaced apart magnet arrays and the conductor component
includes a conductor array positioned between the magnet arrays.

2 13. The mover combination of claim 5 wherein the mover is a linear
motor.

2 14. The mover combination of claim 5 wherein the mover is a voice coil
motor.

15. An isolation system including the mover combination of claim 5.

16. A stage assembly including the mover combination of claim 5.

17. An exposure apparatus including the mover combination of claim 5.

2 18. An object on which an image has been formed by the exposure
apparatus of claim 16.

2 19. A semiconductor wafer on which an image has been formed by the
exposure apparatus of claim 16.

20. A circulation system for a mover that includes a first inlet and a
2 second inlet, the circulation system comprising:

a fluid source that directs a first fluid into the first inlet and a second
4 fluid into the second inlet, the fluid source including a first conduit that
transports the first fluid and a second conduit that transports the second
6 fluid, wherein at least a portion of the second conduit is encircled by the
first conduit.

21. The circulation system of claim 20 wherein a temperature of the
2 second fluid at the second inlet is different than a temperature of the first fluid at
the first inlet.

22. The circulation system of claim 21 wherein the temperature of the
2 first fluid at the first inlet is at least approximately 5 degrees C greater than the
temperature of the second fluid at the second inlet.

23. The circulation system of claim 21 wherein the temperature of the
2 first fluid at the first inlet is at least approximately 10 degrees C greater than the
temperature of the second fluid at the second inlet.

24. The circulation system of claim 20 wherein at least approximately 10
2 percent of the second conduit is encircled by the first conduit.

25. The circulation system of claim 20 wherein at least approximately 50
2 percent of the second conduit is encircled by the first conduit.

26. A mover combination comprising (i) a mover having a magnet
2 component and a conductor component and (ii) the circulation system of claim 20.

27. The mover combination of claim 26 wherein the mover is positioned
2 in a room that is at a room temperature, and wherein a temperature of the first
fluid at the first inlet is approximately equal to the room temperature.

28. The mover combination of claim 26 wherein the mover includes a
2 first passageway and a second passageway, wherein the first inlet is in fluid
communication with the first passageway and the second inlet is in fluid
4 communication with the second passageway.

29. The mover combination of claim 28 wherein the first passageway
2 encircles at least a portion of the second passageway.

30. The mover combination of claim 29 wherein the conductor
2 component includes a conductor array and wherein the first passageway encircles
at least a portion of the conductor array and the conductor array encircles at least
4 a portion of the second passageway.

31. An isolation system including the mover combination of claim 26.

32. A stage assembly including the mover combination of claim 26.

33. An exposure apparatus including the mover combination of claim 26.

34. An object on which an image has been formed by the exposure
2 apparatus of claim 33.

35. A semiconductor wafer on which an image has been formed by the
2 exposure apparatus of claim 33.

36. A method for controlling the temperature of a mover, the mover
2 including a first inlet and a second inlet, the method comprising the steps of:
directing a first fluid from a fluid source into the first inlet; and
4 directing a second fluid from the fluid source into the second inlet,
wherein a temperature of the second fluid at the second inlet is different
6 than a temperature of the first fluid at the first inlet.

37. The method of claim 36 wherein the temperature of the first fluid at
2 the first inlet is at least approximately 2 degrees greater than the temperature of
the second fluid at the second inlet.

38. The method of claim 36 wherein the temperature of the first fluid at
2 the first inlet is at least approximately 5 degrees greater than the temperature of
the second fluid at the second inlet.

39. The method of claim 36 wherein the temperature of the first fluid at
2 the first inlet is at least approximately 10 degrees greater than the temperature of
the second fluid at the second inlet.

40. A method for making a mover combination, the method comprising
2 the steps of: (i) providing a mover having a magnet component and a conductor
component and (ii) controlling the temperature of the mover with the method of
4 claim 36.

41. The method of claim 40 wherein the mover is positioned in a room
2 that is at a room temperature, and wherein the temperature of the first fluid at the
first inlet is approximately equal to the room temperature.

42. The method of claim 40 wherein the mover includes a first
2 passageway and a second passageway, wherein the first inlet is in fluid
communication with the first passageway and the second inlet is in fluid
4 communication with the second passageway.

43. The method of claim 42 wherein the first passageway encircles at
2 least a portion of the second passageway.

44. The method of claim 40 wherein the fluid source includes a first
2 conduit that transports the first fluid and a second conduit that transports the
second fluid, and wherein at least a portion of the first conduit encircles the
4 second conduit.

45. A method for making an isolation system comprising the steps of
2 providing an mover and circulation of the fluids around the mover pursuant to the
method of claim 36.

46. A method for making a stage assembly comprising the steps of
2 providing an mover that moves a stage and circulation of the fluids around the
mover pursuant to the method of claim 36.

47. A method for making an exposure apparatus comprising the steps of
2 providing an mover and circulation of the fluids around the mover pursuant to the
method of claim 36.

48. A method of making a wafer utilizing the exposure apparatus made
2 by the method of claim 47.

49. A method of making a device utilizing the exposure apparatus made
2 by the method of claim 47.